MEDICINE TODAY

Current comment on medical progress, discussion of selected topics from recent books or periodic literature, by contributing members.

Ophthalmology

Sterilization of Ophthalmic Instruments.—The delicate construction of ophthalmic instruments, especially those with cutting edges, renders it essential that their sterilization be done more carefully than that of general surgical instruments. Recently there has been considerable discussion as to the method of sterilization which is most convenient and does the least damage. Finnoff [1] describes a method of dry sterilization which was called to his attention in the Morax Clinic in Paris. The instruments are fixed in holders which are placed in corked test tubes or metal boxes with tight covers. These containers are wrapped in paper and are put in an electric sterilizer which keeps the temperature at 160 degrees C. for one-half hour. When used, the paper can be removed and the surgeon can remove the instruments from the sterile containers. Experimentally Finnoff found that this temperature killed all spores but would not injure even finely tempered watch springs.

The usual present method of sterilization of cataract knives and scissors is by carbolic acid followed by alcohol. Instruments will rust in either of these solutions. More recently Hayward Post [2] of St. Louis has described a solution which will not rust or tarnish the finest blades even after several days' immersion. Dr. A. E. Ewing had originally devised the solution which consists of 95 per cent alcohol, 6 ounces; commercial chloroform, 6 ounces; Liquor cresolis compositus, 1 dram; and liquid albolene, 6 drams. This solution killed staphylococcus albus and aureus, streptococcus diphtheria and typhoid bacilli in one minute or less. No trials were made with spores. When removed from the solution, a slight film of oil remains on the instruments which protects and maintains the edge.

The writer has had no experience with the dry sterilization of instruments, but has used the solution as described by Doctor Post with great satisfaction. One keratome has been kept in good condition for as many as six operations without resharpening. This solution should also be of value to the general surgeon and practitioner for sterilization of small knives and scissors. It must be kept in covered containers to prevent evaporation.

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REFERENCES

1. Finnoff, William C.: Am. J. Ophth., August, 1927, Vol. 10, p. 598.

2. Post, Hayward: Am. J. Ophth., January, 1928, Vol. 11, p. 18.

Proctology

Chronic Ulcerative Colitis.—In reference to this disease, Hurst says: "No diagnosis is made more frequently and with less justification." [1] Bargen [2] claims that the condition is due to a specific Gram-positive, nonmannite fermenting diplococcus, and that favorable results in treatment have been obtained from a vaccine or filtrate of this organism. This he obtains from the ulcers themselves through the sigmoidoscope and combines it with irrigations of the bowel with gentian violet. Others have not had the same success and still consider the cause of the ulcerations undetermined.

The diagnosis of ulcerative colitis is made on the presence of diarrhea with blood and mucus in the stools caused by no specific organism apart from the generally unconfirmed diplococcus of Bargen. Hurst [3] makes a claim which is confirmed by Buie [4] that "ulcerative colitis can be recognized at the first glance (by the sigmoidoscope), but the appearance it presents is indistinguishable from bacillary dysentery" and on the last sentence bases the main part of his treatment. This consists of intravenous injections of large doses of polyvalent antidysenteric serum. He gives 40, 60, 80, and 100 cc. on successive days and then 100 cc. for a few additional days. In addition, he finds injections of the colon with .2 to .4 per cent tannic acid rather better than other astringents or antiseptics.

The appearance of the rectum and sigmoid colon through the sigmoidoscope differentiates the disease under discussion from amebic dysentery even before the stool has been examined for ova or their cysts. In amebic infection the ulcers are discrete, deep and not so small as in ulcerative colitis, which in early stages are undermined, shallow, and have a chronically inflamed red line along the edge. They are found in great numbers and are small, being only one to a few millimeters in diameter. They may always be found in the upper rectum if the colon above is infected, and they probably start below. On the other hand, the amebic ulcers are deep, occur on the prominent folds, may be three to eight millimeters in diameter and are umbilicated and covered usually by a white slough. One might say that there is an exuberant and active ulceration in the amebic types and a chronic indolent one in the nonspecific disease.

These appearances are early ones. The progress of an untreated secondarily infected amebic

dysentery will make later on its gross pathology similar to that of a late chronic ulcerative colitis. Then there is massive denudation of epithelium progressing deeply through the wall of the bowel.

Surgery is definitely indicated for chronic ulcerative colitis early in every case where the condition is not easily amenable to medical treatment and ileostomy seems to be the best form of surgical procedure.

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REFERENCES

1. Hurst, A.: Lancet, 1926, ii, pp. 1151-1154.
2. Bargen, J. A.: Minnesota Med., 10:689-694, November, 1927.
3. Hurst: Loc. cit.
4. Buie, L. A.: Surg. Gynec. Obst., xlvi, pp. 213-215, February, 1928.

Physical Therapeutics

Ultra-Violet Radiation in the Treatment of Pertussis.—Many remedies have been used in the treatment of pertussis, but as yet there are none that can be positively relied upon to be of value in all cases. During the past few years, ultra-violet radiation has been used in the treatment of whooping-cough, with enough success to warrant its continued use.

In the *Journal de Radiologie et d'Electrologie*, Bru Camille gave the results in treating children of different ages, and in various conditions, by this method; 80 per cent being cured, 10 per cent being improved, and 10 per cent showing no perceptible benefit.

Bru Camille's technique consisted of two minutes' radiation at 27 inches to the front and back the first day; this dosage being increased two minutes every second day. Erythema usually occurred after the third treatment, and was accompanied by general improvement, with lessening of fatigue and with a definite decrease in the number and violence of the coughing and vomiting attacks.

The treatment outlined above, with some modifications in application, has been used for over two years in the Boyle Avenue Dispensary at Los Angeles with good results, but with a smaller percentage of cures than above quoted.

A study of a series of patients showed that approximately 50 per cent showed marked improvement; 40 per cent some relief; while the remaining 10 per cent apparently received no benefit from the treatment. The patients in this series were given ten minutes of deep therapy lamp radiation to the front and back, preceding the ultra-violet exposure. The purpose of this was to induce a peripheral hyperemia, and thus enhance ultra-violet absorption.

The more severe cases in the series received daily treatment at the outset, but after improvement was noticeable, the patients were treated on alternate days.

Blondes were started with 30 seconds of ultra-violet to front and back at 15 inches, and increased 30 seconds if given daily, or 45 seconds when less frequently given. Brunettes were given 45 seconds for the first exposure, and then increased at the same rate as for the blondes.

Several of the children who had been vomiting persistently did not vomit after the first treatment. Unfortunately this represented a small percentage, but the general improvement in the patients who were treated was most encouraging.

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Urology

The Clinical Significance of Pyelovenous Backflow.—Considerable interest has been manifested in the phenomenon of pyelovenous backflow as evidenced by the number of publications that have appeared during the last year:

Lee-Brown: The Phenomenon of Pyelovenous Backflow, J. Urol., 17:105, 1927.

Lee-Brown and Laidley: Pyelovenous Backflow, J. A. M. A., 89:2094-98, 1927.

Fuchs, Felix: Untersuchungen über die innere Topographie der Niere, Ztschr. f. Urol. Chir., 18: 164-80, 1925. Über den pyelovenösen Reflux der menschlichen Niere, Ztschr. f. Urol. Chir., xxii, Heft 5/6, 435-66, 1927. Ibid., II. Mitteilung, xxiii, Heft 3/4, 210-22, 1927.

Gile, Harold H.: Observations on Injections of the Renal Pelvis, with Special Reference to the Question of Pyelovenous Backflow, J. Urol., 18:621-35, 1927.

Of these, the studies of Felix Fuchs of Vienna are particularly interesting as he has emphasized the practical significance of a pyelovenous backflow in many everyday clinical conditions. Of these might be mentioned particularly its relation to the occurrence of renal hemorrhage and to the acute exacerbations of renal sepsis after temporary or partial ureteral obstruction. In addition to these two clinical conditions, pyelovenous backflow has been variously regarded as of significance in reference to the mechanism of hydronephrosis. Its practical significance lies in offering an explanation of many defects that are seen in otherwise normal pyelograms and of the accidents and sudden deaths that have been known to follow pyelography. Certain studies of Fuchs further emphasize the practical significance with respect to air embolism, particularly following contrast cystography or following a common practice of filling the bladder with air at the time of operation in performing cystotomy. Fuchs has shown that air gains as ready access to the renal veins upon injection by way of the ureter as fluid menstruum. All these various experimental studies, while they have not definitely established the exact route and mechanism of pyelovenous backflow, have established that this is the commonest and most important route in general following ureteral back pressure. In addition there is in the human kidney particularly a slight or partial backflow up the collecting tubules, occasionally an extravasation along the larger vessels beneath the cortex giving subcapsular extravasations.

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